# DISH Pro Plus 44
# Multi-Dish Switch

# Installation Guide

# Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Use only attachments/accessories specified by the manufacturer.
6. Refer all servicing to qualified personnel.

Keep safety in mind while installing the DISH Pro Plus 44 Switch. In this guide, the following notes tell you when you need to pay special attention:



Marks a procedure where the following may happen:

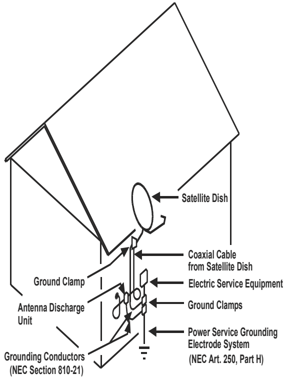
- Personal injury or death may occur.
- Equipment or property may be damaged.



Marks the following issues:

- Important operation or maintenance instructions follow.
- Special attention is required.

**Note to Satellite TV System Installer**: This reminder is provided to call the satellite TV system installer's attention to Article 820-40 of the *National Electrical Code* (NEC) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.



# Contents

# Introduction

This guide explains how to install the DISH Pro Plus 44 Multi-Dish Switch. You should use this guide along with the *Installation Instructions* provided in your receiver user's guide.

# Features

A DISH Pro Plus 44 switch allows you to receive signals from up to four DISH Network™ satellites, and route these signals to as many as four DISH Network satellite receivers per switch.

- Supports receiving signals from up to four DISH Network satellites.
- Supports DISH Pro Plus, DISH Pro, and non-DISH Pro receivers (some limitations apply).
- Supports trunking together DISH Pro Plus or DISH Pro switches to allow adding more receivers.
- Supports connecting to a DISH Pro Plus two-tuner receiver using only one cable (requires a DISH Pro Plus Separator).

# Installation Instructions

The following instructions assume you have already installed and pointed your dish(es) for the strongest possible signal, have run **Check Switch,** and have allowed the receiver to take a software upgrade. If not, you must complete the dish installation using the instructions which came with the dish and receiver before starting this switch installation.

**Note**: For DISH Pro Plus-compatible receivers, you can complete these installation instructions with only one **SATELLITE IN** connected.

**Note**: Legacy receivers may be directly connected to a DISH Pro LNBF to peak the satellite dish and take the software download using odd transponders (for example, transponder 11).

## Mounting and Connecting the Switch

Refer to the wiring diagrams starting on page 17 and complete the instructions below to mount and connect the switch to your system:

1. Mount the DISH Pro Plus 44 switch onto the side of a building, or on some other sturdy structure. Make sure that the mounting location is stable, and that you fasten the switch tightly to the surface.

The switch is UL approved to take the place of a ground block.

You can have up to 200 feet of cable between a DISH Pro LNBF and a satellite receiver with the DISH Pro Plus 44 Switch connected at any point along the 200 feet of cable. The cable must be rated for 950 to 2150 MHz. Some cable is labeled “Swept tested to 2150 MHz.” If you are unsure whether your cable is rated to 2150 MHz, check the container it came in or talk to your retailer.

**Note**: The DISH Pro Plus 44 switch can be installed inside or outside your home or building.

**Note**: Mount the switch so that the dish connections are horizontal (as shown in Figure 1), and put drip loops in all coaxial cables. This helps prevent water from dripping into switch connections.

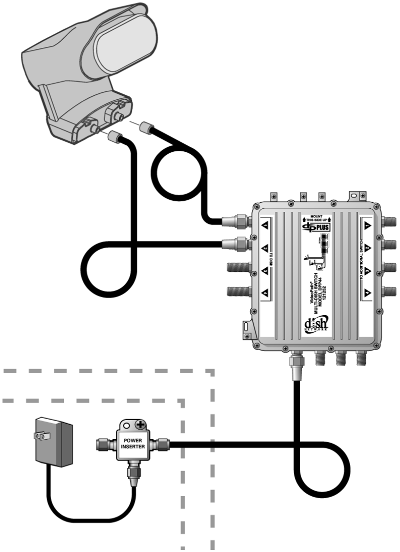



**Figure 1. Mounting the Switch**

2. Connect the coaxial cables from the LNBFs in your system to the ports on the switch labeled **TO DISH** (see also the wiring diagrams that begin on page 17).

   **Note**: You can only connect to LNBFs marked with the DISH Pro logo, DISH Pro Plus logo, or those used with a SuperDISH.

**Note**: Receiver models 1000, 2000, 3000, 4000, 5000, JVC D-VHS, 7100, and 7200 cannot receive satellite signals connected to the **TO DISH PORT** ④. Therefore, connect LNBFs for the three satellite locations you want these models to receive on **TO DISH Ports** ① through ③. It is recommended that FSS LNBFs be connected to **PORT** ④ since the receivers listed in this note cannot receive signals from FSS satellites anyway.

3. Connect a cable between **TO POWER INSERTER 1** connection on the switch and the power inserter marked **TO SWITCH INPUT 1**.

Do not install any devices between the power inserter and the switch. The power from the inserter may damage the device.

The power inserter must be installed in the cable connected to the switch's **TO POWER INSERTER 1** or the switch will not work.

The power inserter is for indoor use only.

4. Connect the cables from the receiver's back panel **SATELLITE IN** port(s) to the **TO RECEIVER SATELLITE IN** port of the power inserter installed in the previous step, or to switch ports ② through ④ labeled **TO RECEIVER SATELLITE IN**.

   **Note**: If installing a DISH Pro Plus two-tuner receiver using a single cable, install a DISH Pro Plus Separator as follows:

   a. Connect a cable from a **TO RECEIVER SATELLITE IN** port on either the switch or power inserter to the DISH Pro Plus Separator.

   b. Connect cables between the receiver **SATELLITE IN 1** and **SATELLITE IN 2** to ports **1** and **2** respectively on the DISH Pro Plus Separator.

Do not connect the receiver to the ports labeled **TO ADDITIONAL SWITCH** as this can cause receivers in the system to experience loss of video.

4. Make sure all connections are secure.
5. Plug the power supply for the power inserter into a power outlet.

## Run Check Switch

After you have connected your switch to the LNBFs and receivers in the system, you will need to run **Check Switch** on each receiver in your system, one at a time. Follow these instructions for each receiver:

1. Open the **Point Dish/Signal Strength** screen. See your DISH Network satellite receiver user's guide for instructions. A **Point Dish/Signal** screen similar to the one shown as Figure 2 will open.

   **Note**: Models 2800, 3900, 4900, and 6000 must select **SuperDISH/129** to see the fourth port.

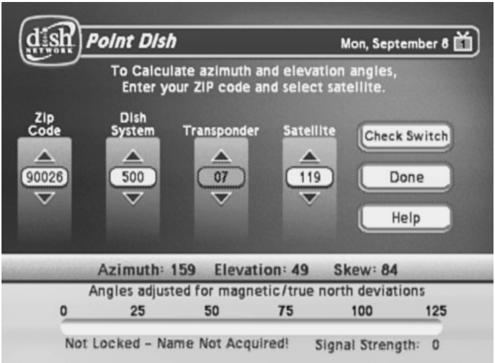



**Figure 2. Point Dish Screen**

2. Select **Check Switch** or **Test**, depending on your receiver model. The **Check Switch** screen will open. Select **Check** or **Test**, depending on your receiver model.
3. The **Check Switch** procedure will run. When it finishes, you will see an **Installation Summary** screen.
   - For DISH Pro and DISH Pro Plus receivers, this screen should identify the installed switch as a DISH Pro Plus 44. You should see all of the satellites received by your system on the **Satellite** line, and the word **All** under the **Dish Input** numbers. You should also see the message **Satellite reception verified**.

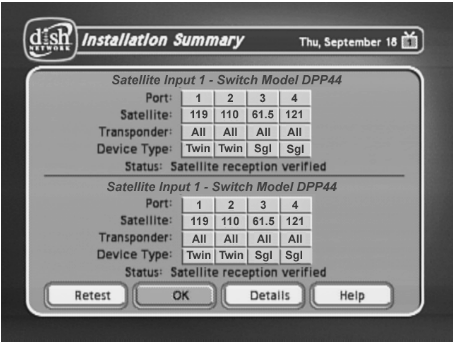



**Figure 3. DISH Pro Plus Installation Summary**

- For non-DISH Pro receiver models 2800, 3900, 4900, and 6000, this screen should identify the installed switch as an **SW21 4Sat**. You should see all of the satellites received by your system on the **Satellite** line, and the words **Even** and **Odd** under the **Dish Input** numbers. You should also see the message **Satellite reception verified**.

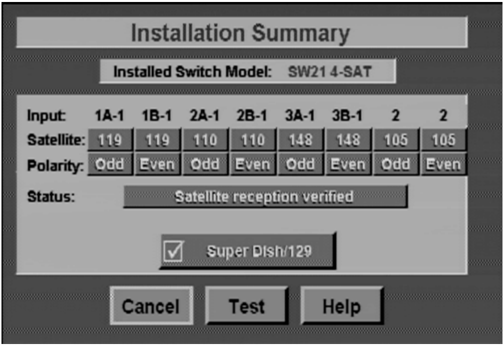



**Figure 4. Non-DISH Pro Installation Summary**

- For non-DISH Pro receiver models 1000, 2000, 3000, 4000, 5000, JVC D-VHS, 7100, and 7200, this screen should identify the installed switch as an **SW21 4Sat**. You should see all of the satellites received by your system from switch ports ① through ③ (except FSS satellites) on the **Satellite** line, and the words **Even** and **Odd** under the **Dish Input** numbers. You should also see the message **Satellite reception verified**.

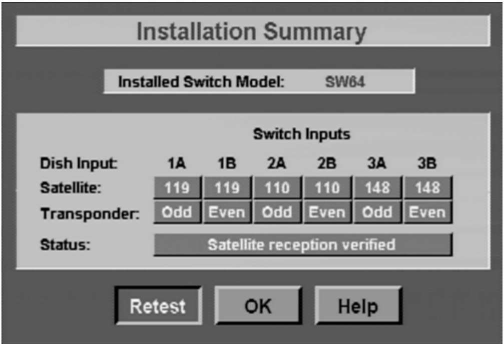



**Figure 5. Non-DISH Pro Installation Summary**

4. If you do not see the information as described in step 3 of this procedure, you will need to check all cables and switches, and then run **Check Switch** again. Select **Details** for information that may be helpful in trouble-shooting the problem or in reporting it to the DISH Network Customer Service Center.

## Adding More Switches

You can install two additional DISH Pro or DISH Pro Plus switches to the system, to support up to 12 satellite receivers total. Add the switches by repeating the previous installation instructions except connect the ports marked **TO DISH** on each added switch to the ports marked **TO ADDITIONAL SWITCHES** on an installed switch. See Figure 6.

**Note**: You must use the same group of trunk ports on each switch throughout the system. However, cables can be connected to any port in the group. For example: If **TO DISH** port numbers ① through ③ are connected on the first switch, you must connect all switches together using ports ① through ③.

# Wiring Diagrams

The wiring diagram in this *Guide* omit cable drip loops and grounding for clarity. Make sure to use drip loops, and to ground the system per the *National Electrical Code* (NEC) and all local electrical codes.

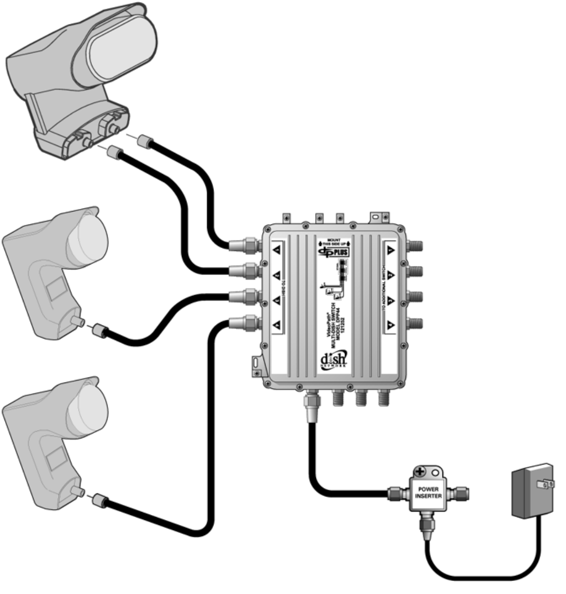



**Figure 6. DISH Pro Plus 44 Connections**

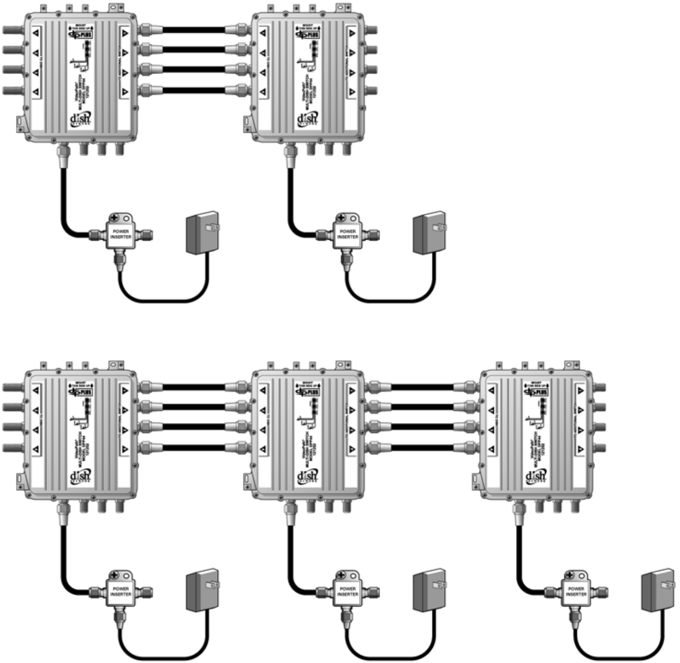



**Figure 7. Additional DISH Pro Plus 44 Switches**

# Limited Warranty

This warranty extends only to the original user of the DISH Network DISH Pro Plus 44 Switch ("you," "your") and is limited to the purchase price of the switch. EchoStar Technologies Corporation and its affiliated companies ("we," "our," "us") warrant this switch control against defects in materials or workmanship as follows.

For one year from the original date of purchase, if we find that the switch is defective subject to the limits of this warranty, we will replace the switch at no charge for parts or labor. We warrant any such work done against defects in materials or workmanship for the remaining part of the original warranty period.

This warranty does not cover installation of the DISH Network System; consumer instruction; physical set up or adjustment of any consumer electronic device; switch batteries; signal reception problems; loss of use of the equipment; unused programming charges due to equipment malfunction; cosmetic damage; damage due to lightning, electrical or telephone line surges, fire, flood, or other acts of Nature; accident; misuse; abuse; repair or alteration by other than our factory service; negligence; commercial or institutional use; improper or neglected maintenance; equipment sold AS IS or WITH ALL FAULTS; equipment removal or reinstallation; shipping damage if the equipment was not packed and shipped in the manner we prescribe; nor equipment purchased, serviced, or operated outside the contiguous United States of America.

REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS YOUR EXCLUSIVE REMEDY. WE SHALL NOT BE HELD LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY ON THIS DEVICE, NOR FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE RESULTING FROM THE USE OF, OR INABILITY TO USE, THIS DEVICE. UNDER NO CIRCUMSTANCES SHALL OUR LIABILITY, IF ANY, EXCEED THE PURCHASE PRICE PAID FOR THIS DEVICE. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS DEVICE IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY. WE RESERVE THE RIGHT TO REFUSE TO HONOR THIS WARRANTY IF WE DETERMINE ANY OF THE ABOVE EXCEPTIONS TO HAVE CAUSED THIS DEVICE NOT TO HAVE PERFORMED PROPERLY. THIS WARRANTY SHALL BE VOID IF ANY FACTORY-APPLIED IDENTIFICATION MARK, INCLUDING BUT NOT LIMITED TO SERIAL OR CONDITIONAL ACCESS NUMBERS, HAS BEEN ALTERED OR REMOVED. THIS WARRANTY SHALL ALSO BE VOID IF THE DEVICE HAS BEEN OPENED BY AN UNAUTHORIZED PERSON.

This warranty gives you specific legal rights which may vary from state to state. Some states do not allow the exclusion or limitations of incidental or consequential damages, or allow limitations on the duration of an implied warranty, so those limitations may not apply to you.

# Advance Exchange Program

The Advance Exchange Program allows you to have replacement equipment shipped immediately to you (depending upon where you live, it could take three to five business days). Along with replacement equipment, you will receive a prepaid shipping label and instructions on how to return the defective equipment.

The shipping charge, for receiving replacement equipment and returning the defective equipment, is a one time fee based on EchoStar's competitive bulk shipping rates (additional charges may apply outside of the continental US). This fee will be charged to your billing account or your valid credit card.

If you do not ship the defective equipment to EchoStar within ten days after receiving the replacement, your billing account or credit card will be charged the market price of the replacement. If you return the defective equipment after ten days, you will receive a full refund less an administrative fee.

If your equipment is out of warranty and can be repaired your billing account or credit card will be charged the standard repair fee for the replacement. If damage to the defective equipment is found, which EchoStar in its sole discretion determines has voided the warranty, or makes the equipment unrepairable, your billing account or credit card will be charged the market price of the replacement.

## Post Receipt Exchange Program

You may choose to ship the equipment to us at your cost. To provide faster service, upon receipt of your equipment you will be shipped a replacement. Your original equipment will not be available for return.

The equipment you return will be checked to verify whether it is covered under this warranty. If the defective equipment is covered under this warranty, it will be replaced and shipped back to you at no additional cost (additional charges may apply outside of the continental US).

If your equipment is out of warranty and can be repaired your billing account or credit card will be charged the standard repair fee for the replacement. If damage to the defective equipment is found, which EchoStar in its sole discretion determines has voided the warranty, or makes the equipment unrepairable, your billing account or credit card will be charged the market price of the replacement.

## Accessory Warranty

An accessory is any DISH Network branded equipment, displaying the DISH Network logo, excluding the receiver, Smart Card, cables and hookups, and non-mechanical components. A one-year warranty becomes effective upon the activation of the DISH system or date of purchase, if bought separately. A proof of purchase is required to verify the purchase date. If an accessory has an expired warranty, no exchange will be issued. You may purchase replacement accessories from DISH Network or your local retailer.

# If You Need Help

Review this Guide.

Call the DISH Network Customer Service Center at 1-800-333-DISH (3474). Have the date of purchase and your customer account number ready.

A Representative will assist you. The Representative will try to troubleshoot any problem you may be having. He or she also will check whether the switch is covered under this warranty.

If the Representative finds that you should return the switch, you will get a telephone number to call for a Return Authorization (RA) number. Before shipping any equipment to us, you must get a Return Authorization number from the Service Center.

You must package returned equipment properly. Follow the instructions that the Representative gives you. Write the RA number in large, clearly visible characters on the outside of the shipping box used to return the equipment. To avoid confusion and misunderstandings, we will return shipments without an RA number clearly visible on the outside of the box to you at your expense.

We will:

- Check the switch, including whether it is covered under the warranty.
- Replace any switch that we find is defective with a new or refurbished switch, if the defective switch is covered under the warranty. We will ship the replacement switch at our expense.

If a defective switch is not covered under the warranty, we will tell you. We may assess you a flat rate charge for a replacement switch, including shipping and insurance.

# FCC Rules

**Note**: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

# UL Information

Bolting torque of the screw for ground fixation: 50 pound inches.

Grounding wire size: 8-17AWG.

The information in this *Guide* may change without notice. Revisions may be issued to tell you about such changes.

You should address comments or questions about this *Guide* to *Technical Publications, EchoStar Technologies Corporation, 94 Inverness Terrace East, Englewood, Colorado 80112*.

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